

IN THE ABSTRACT:

~~The object of the present invention is to provide a pulse magnetron which can inhibit unwanted oscillation at an operation point lower than the rated level in the rise or decay of a pulse, attenuate spurious radiation at lower frequencies than the fundamental oscillation frequency, and produce an improved symmetrical profile of output spectrum. The A pulse magnetron of the present invention includes an a cylindrical shell anode, a cathode provided at the center of the anode having a number of vanes mounted radially on an inner wall of the cylindrical anode shell, and a pair of pole pieces provided for applying a magnetic field to an interaction space where the outer side of the cathode is opposed to the inner ends of the vanes. The radius r_a of the inscribed circle defined by the inner ends of the vanes and the radius r_c of the cathode surface satisfy the operation theory equation for the minimum value of the magnetic flux density along the axial direction of the cathode at both ends of the inner end of the height of the vanes in the interaction space. The anode and the cathode are arranged to satisfy at least either (i) increasing the radius of the inscribed circle defined by the inner ends of the vanes or (ii) decreasing the radius of the cathode surface as the magnetic flux density along the axial direction of the cathode at both ends of the inner end of the height of the vanes.~~